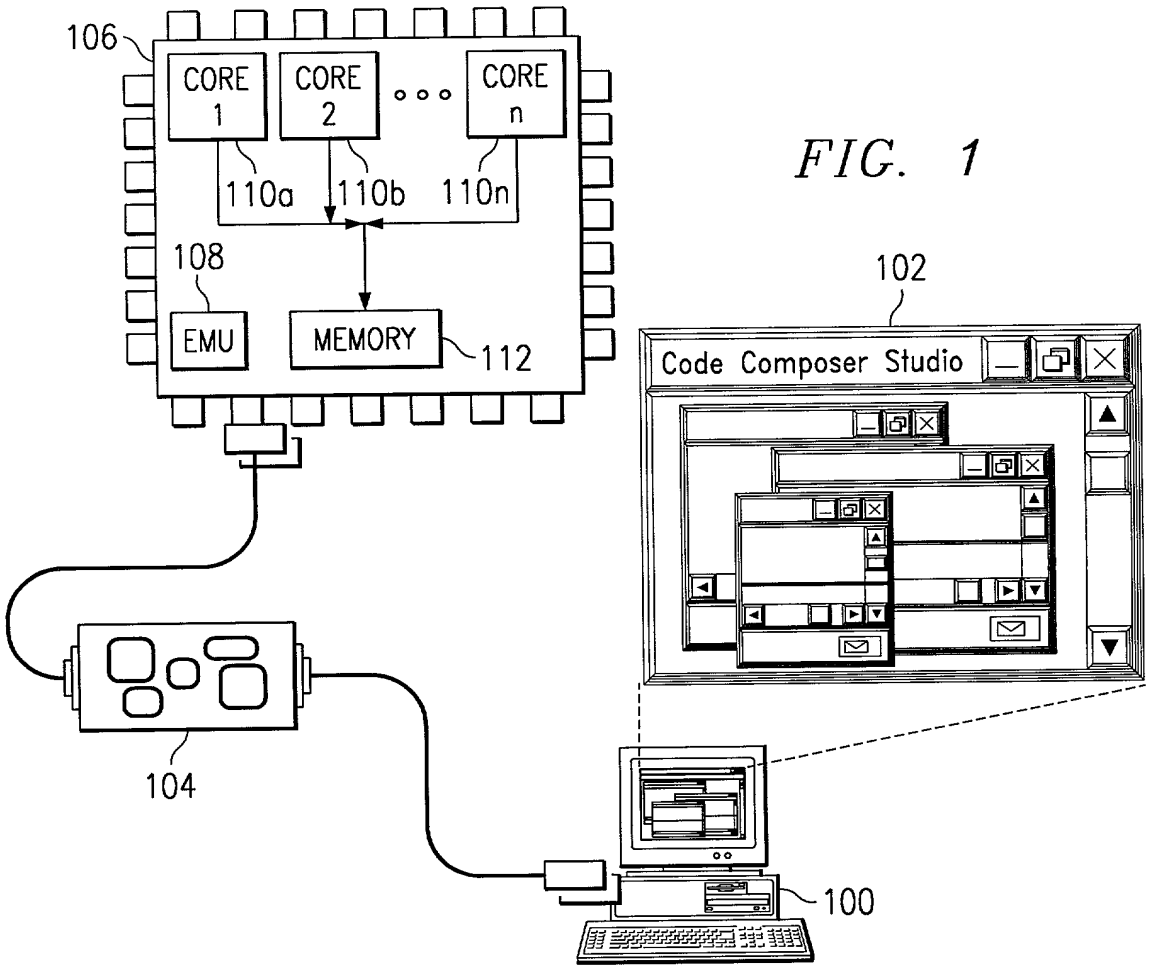

106
CORE 1
CORE 2
CORE n
110a
110b
110n
108
EMU
MEMORY
112
102
Code Composer Studio
104
100

FIG. 1

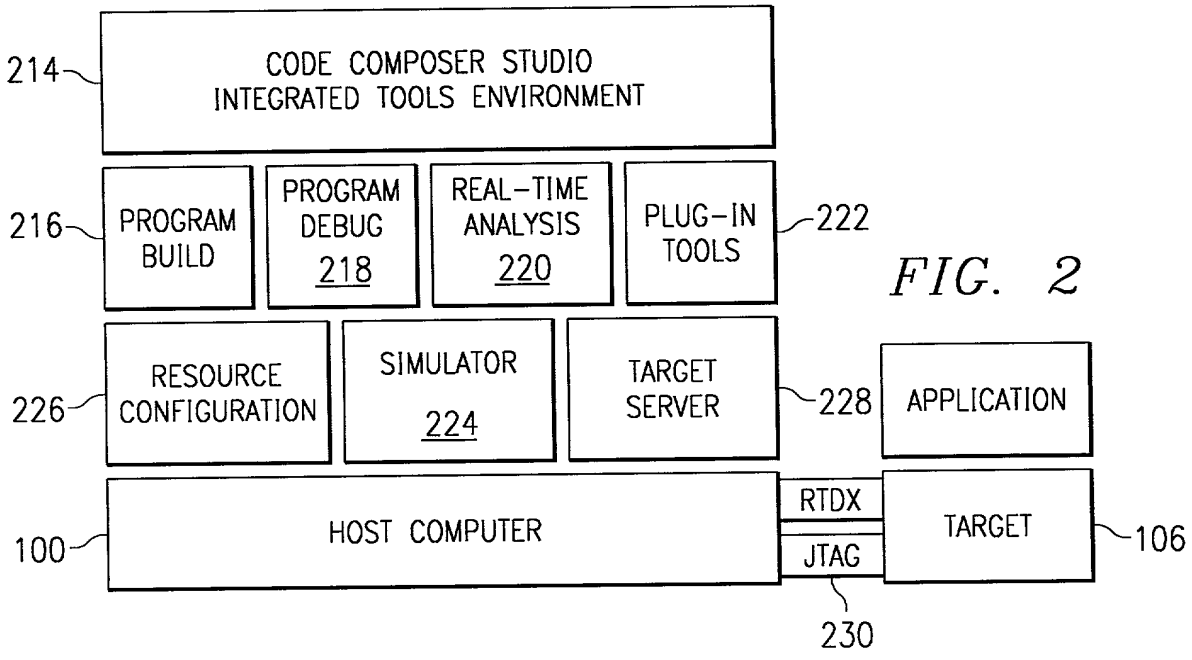
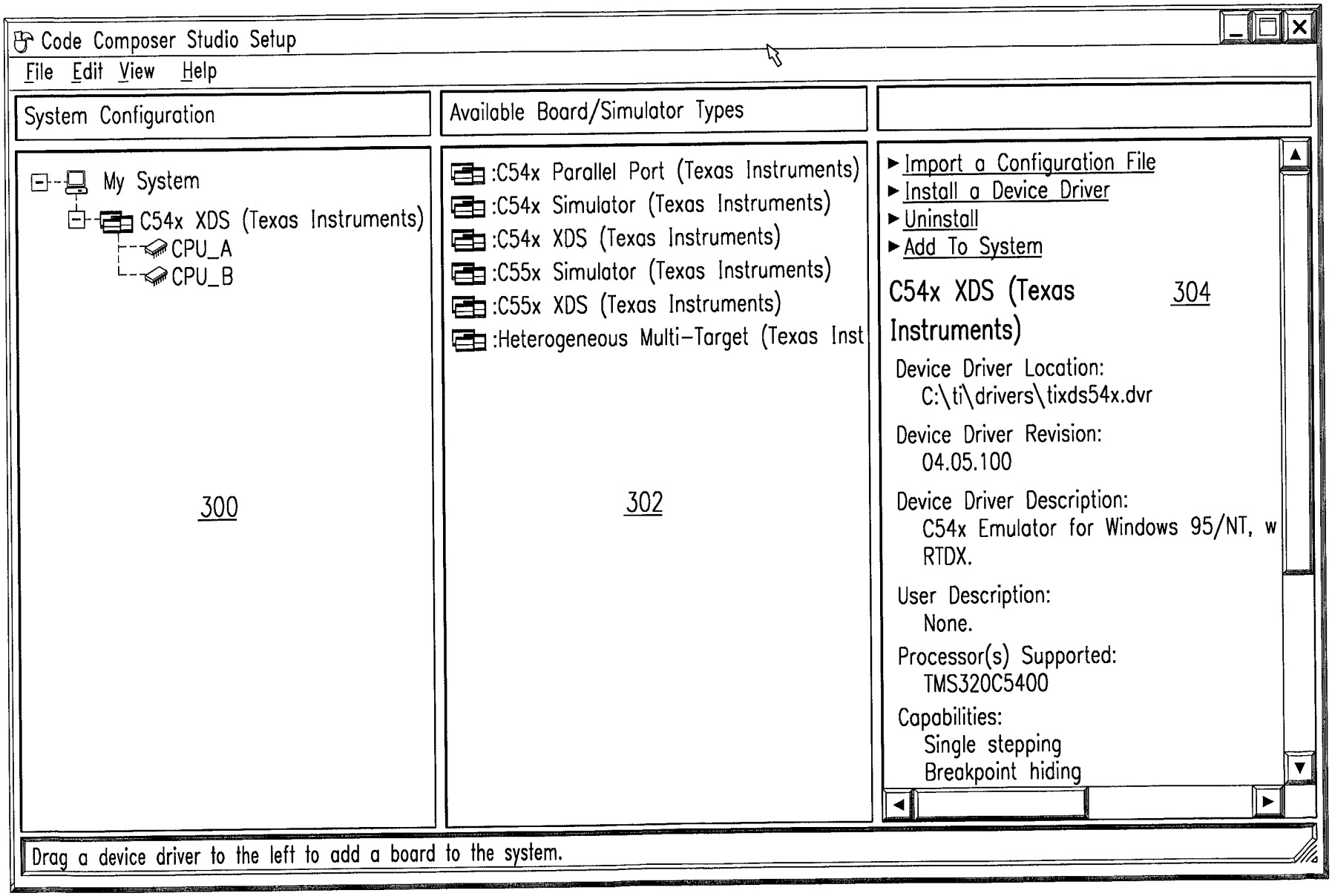

214
CODE COMPOSER STUDIO
INTEGRATED TOOLS ENVIRONMENT
216
PROGRAM BUILD
PROGRAM DEBUG 218
REAL-TIME ANALYSIS 220
PLUG-IN TOOLS
222
226
RESOURCE CONFIGURATION
SIMULATOR 224
TARGET SERVER
228
APPLICATION
100
HOST COMPUTER
RTDX
JTAG
TARGET
106
230

FIG. 2

FIG. 3


Code Composer Studio Setup
File Edit View Help
System Configuration
Available Board/Simulator Types
My System
C54x XDS (Texas Instruments)
CPU_A
CPU_B
300
:C54x Parallel Port (Texas Instruments)
:C54x Simulator (Texas Instruments)
:C54x XDS (Texas Instruments)
:C55x Simulator (Texas Instruments)
:C55x XDS (Texas Instruments)
:Heterogeneous Multi-Target (Texas Inst
302
Import a Configuration File
Install a Device Driver
Uninstall
Add To System
C54x XDS (Texas Instruments) 304
Device Driver Location:
C:\ti\drivers\tixds54x.dvr
Device Driver Revision:
04.05.100
Device Driver Description:
C54x Emulator for Windows 95/NT, w
RTDX.
User Description:
None.
Processor(s) Supported:
TMS320C5400
Capabilities:
Single stepping
Breakpoint hiding
Drag a device driver to the left to add a board to the system.

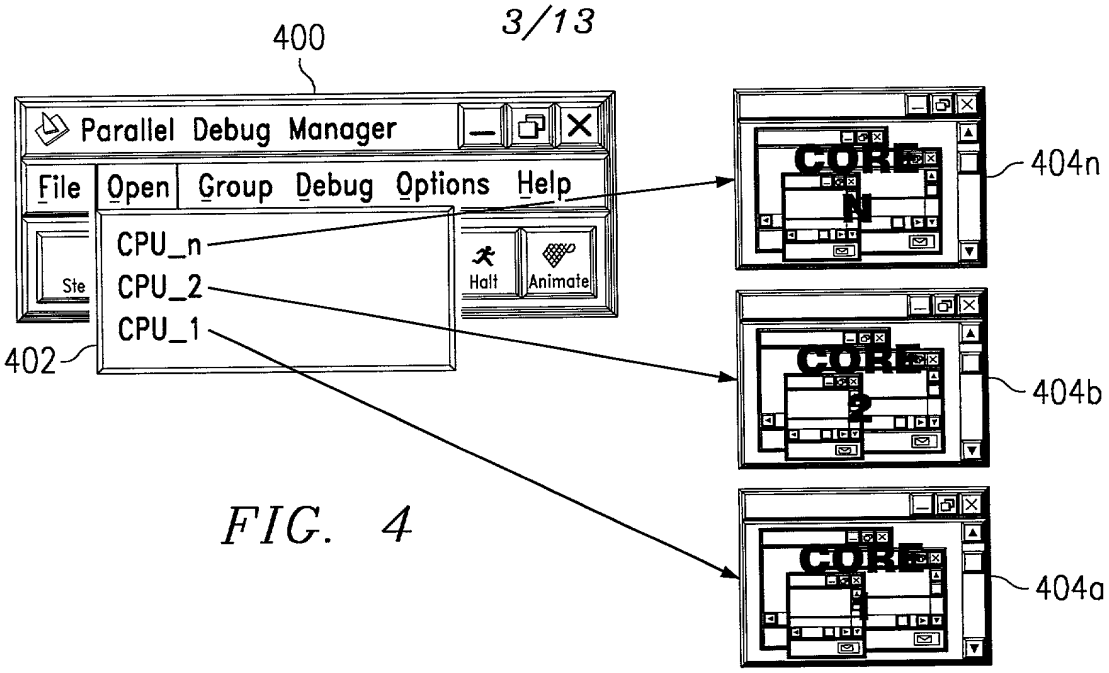

400
Parallel Debug Manager
File
Open
Group
Debug
Options
Help
CPU_n
CPU_2
CPU_1
Halt
Animate
402
404n
404b
404a

FIG. 4

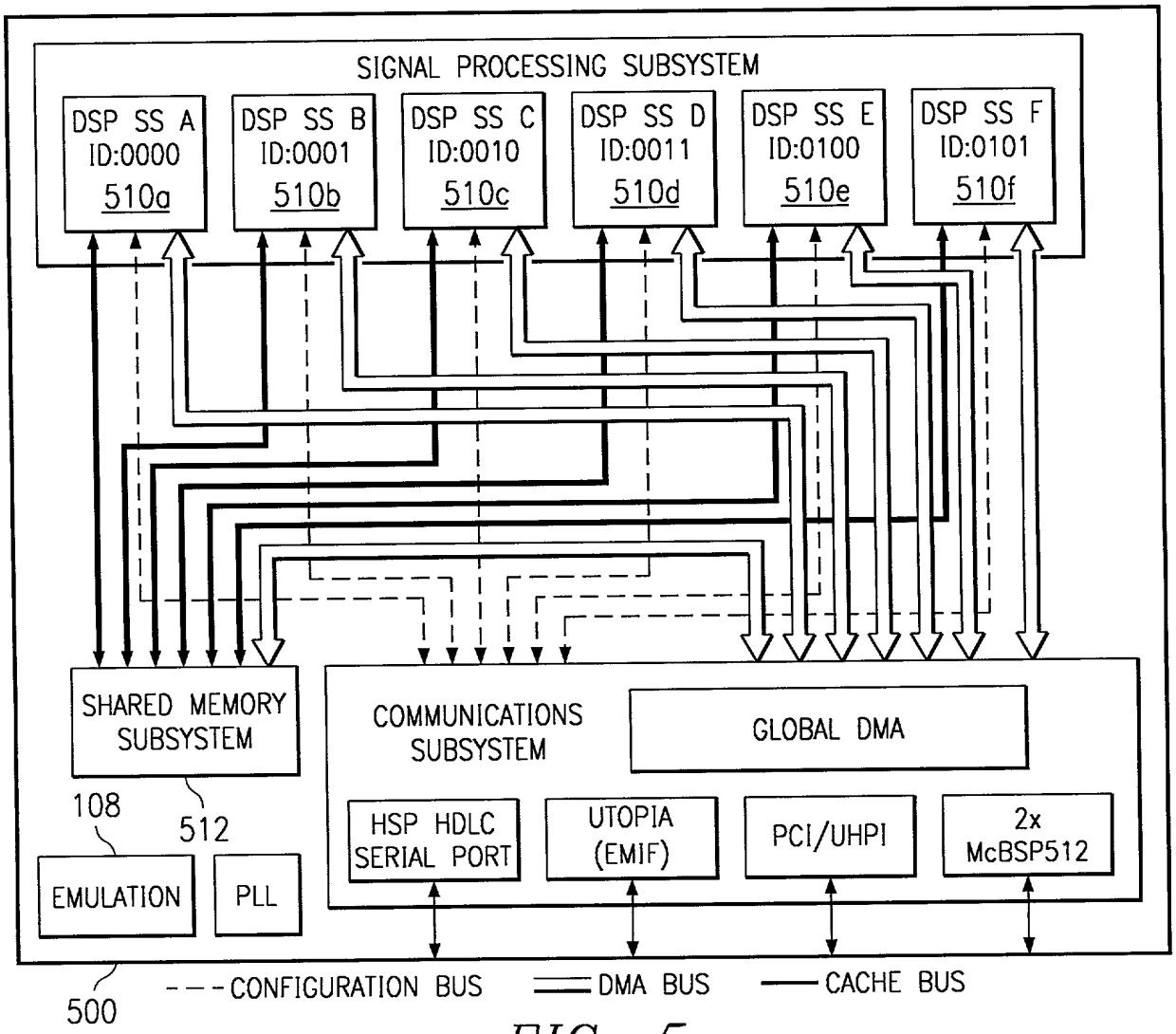

SIGNAL PROCESSING SUBSYSTEM
DSP SS A ID:0000 510a
DSP SS B ID:0001 510b
DSP SS C ID:0010 510c
DSP SS D ID:0011 510d
DSP SS E ID:0100 510e
DSP SS F ID:0101 510f
SHARED MEMORY SUBSYSTEM
512
108
EMULATION
PLL
COMMUNICATIONS SUBSYSTEM
GLOBAL DMA
HSP HDLC SERIAL PORT
UTOPIA (EMIF)
PCI/UHPI
2x McBSP512
500
CONFIGURATION BUS
DMA BUS
CACHE BUS

FIG. 5

FIG. 6

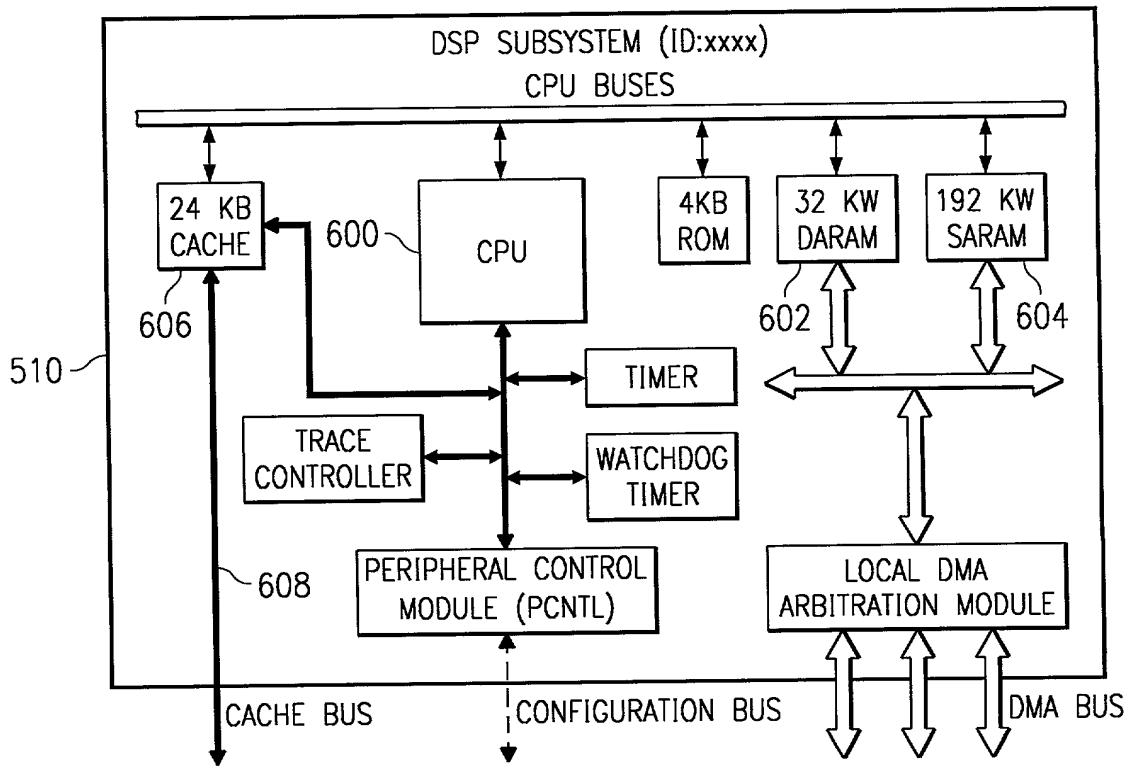
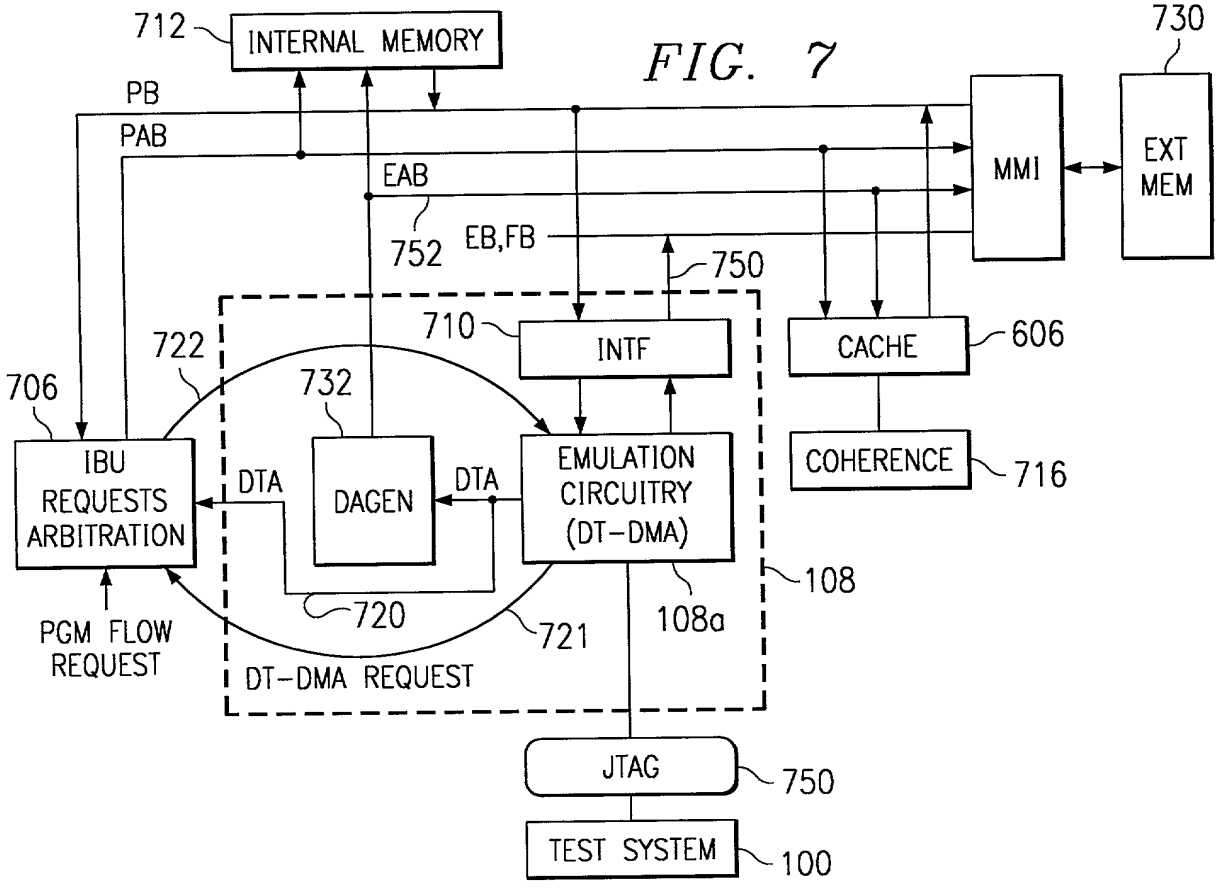

DSP SUBSYSTEM (ID:xxxx)
CPU BUSES
24 KB CACHE
606
600
CPU
4KB ROM
32 KW DARAM
602
192 KW SARAM
604
510
TIMER
TRACE CONTROLLER
WATCHDOG TIMER
608
PERIPHERAL CONTROL MODULE (PCNTL)
LOCAL DMA ARBITRATION MODULE
CACHE BUS
CONFIGURATION BUS
DMA BUS

FIG. 7


712
INTERNAL MEMORY
730
PB
PAB
EAB
752
EB,FB
750
MMI
EXT MEM
710
INTF
CACHE
606
722
706
732
IBU REQUESTS ARBITRATION
DTA
DAGEN
DTA
EMULATION CIRCUITRY (DT-DMA)
COHERENCE
716
108
720
721
108a
PGM FLOW REQUEST
DT-DMA REQUEST
JTAG
750
TEST SYSTEM
100

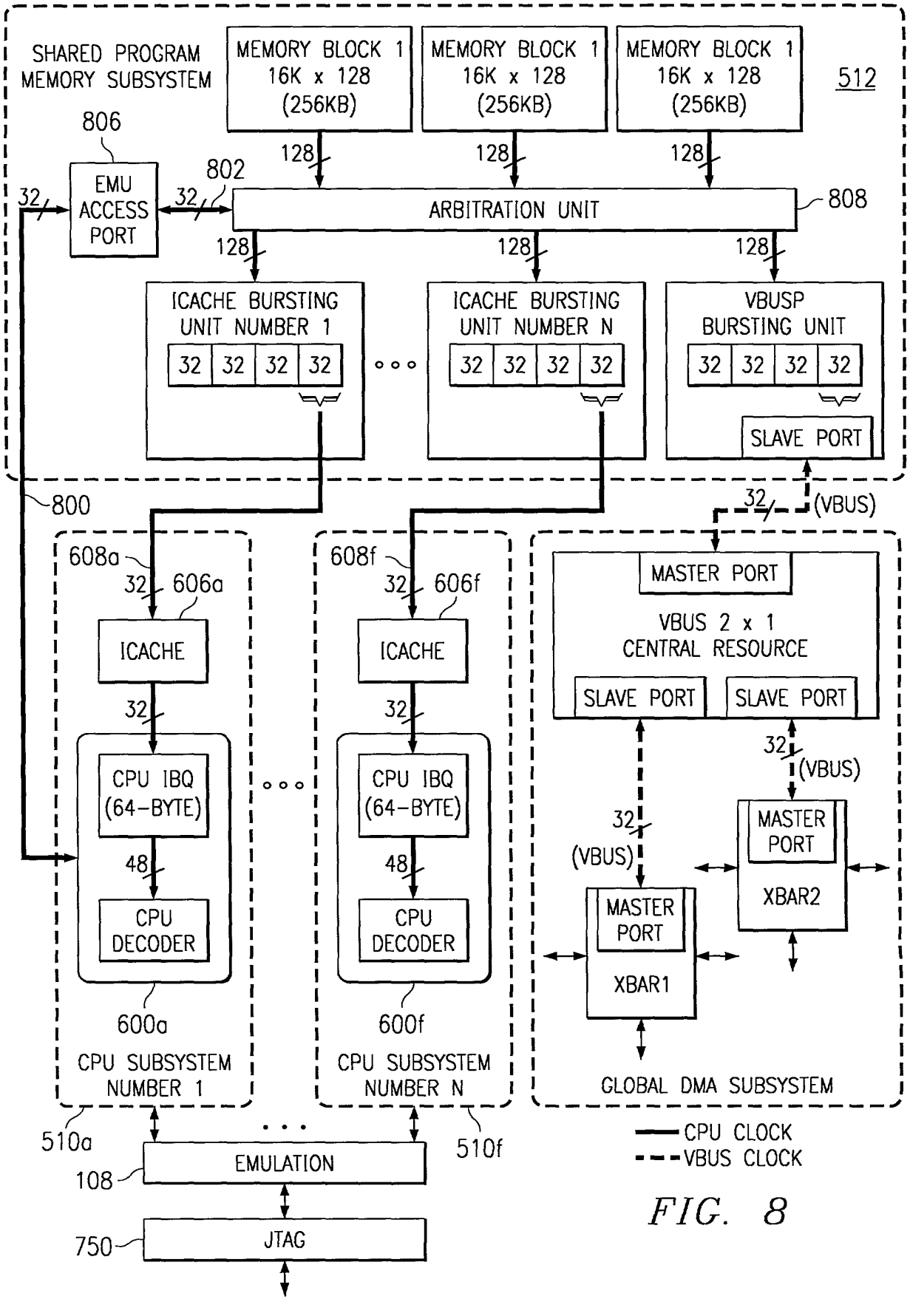


FIG. 8

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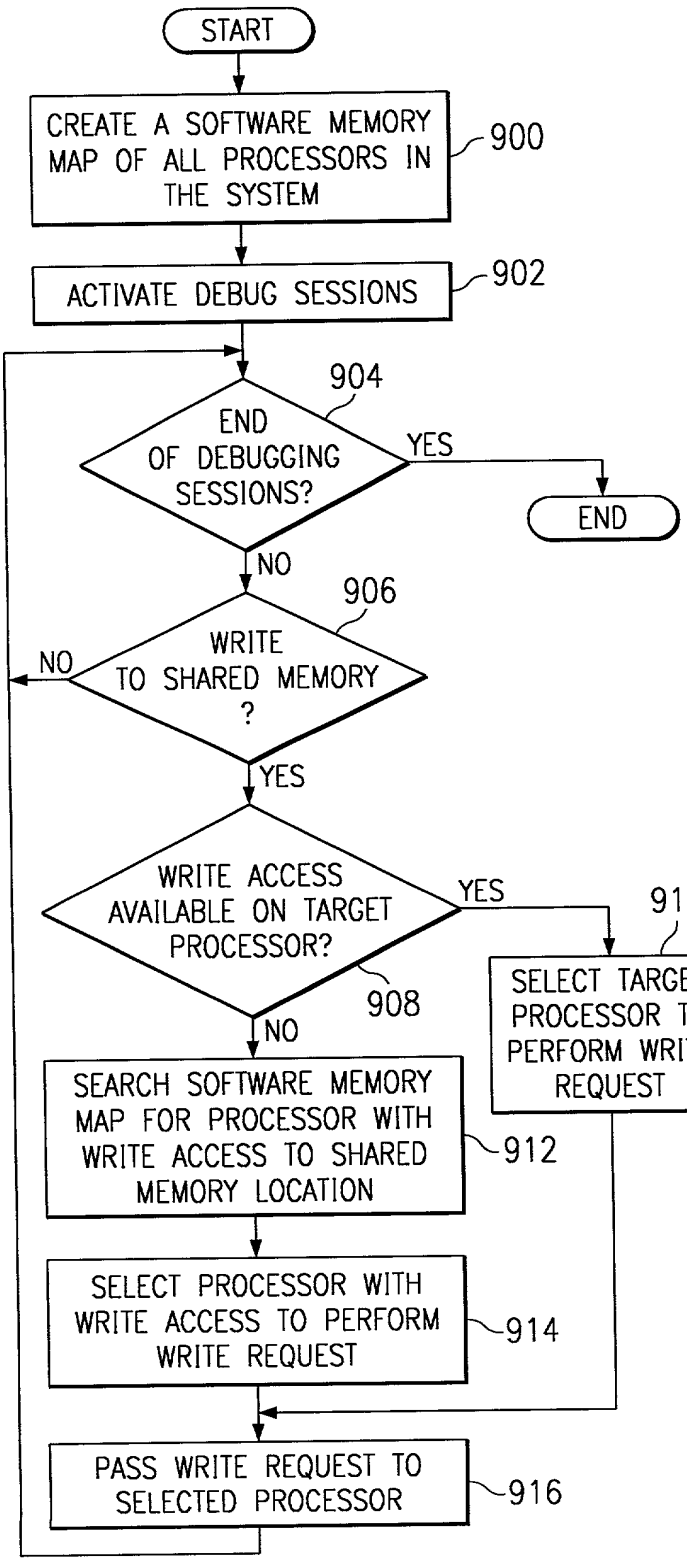
FIG. 9



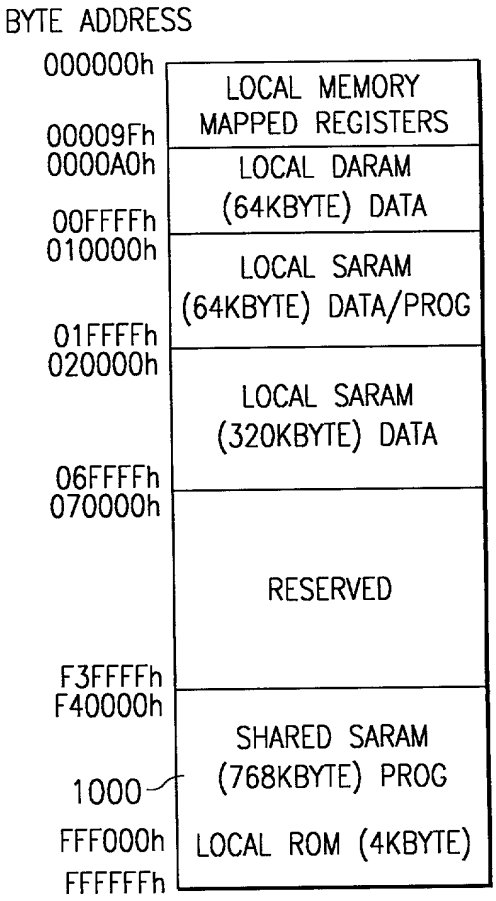


FIG. 10

Patent Application Publication

FIG. 11

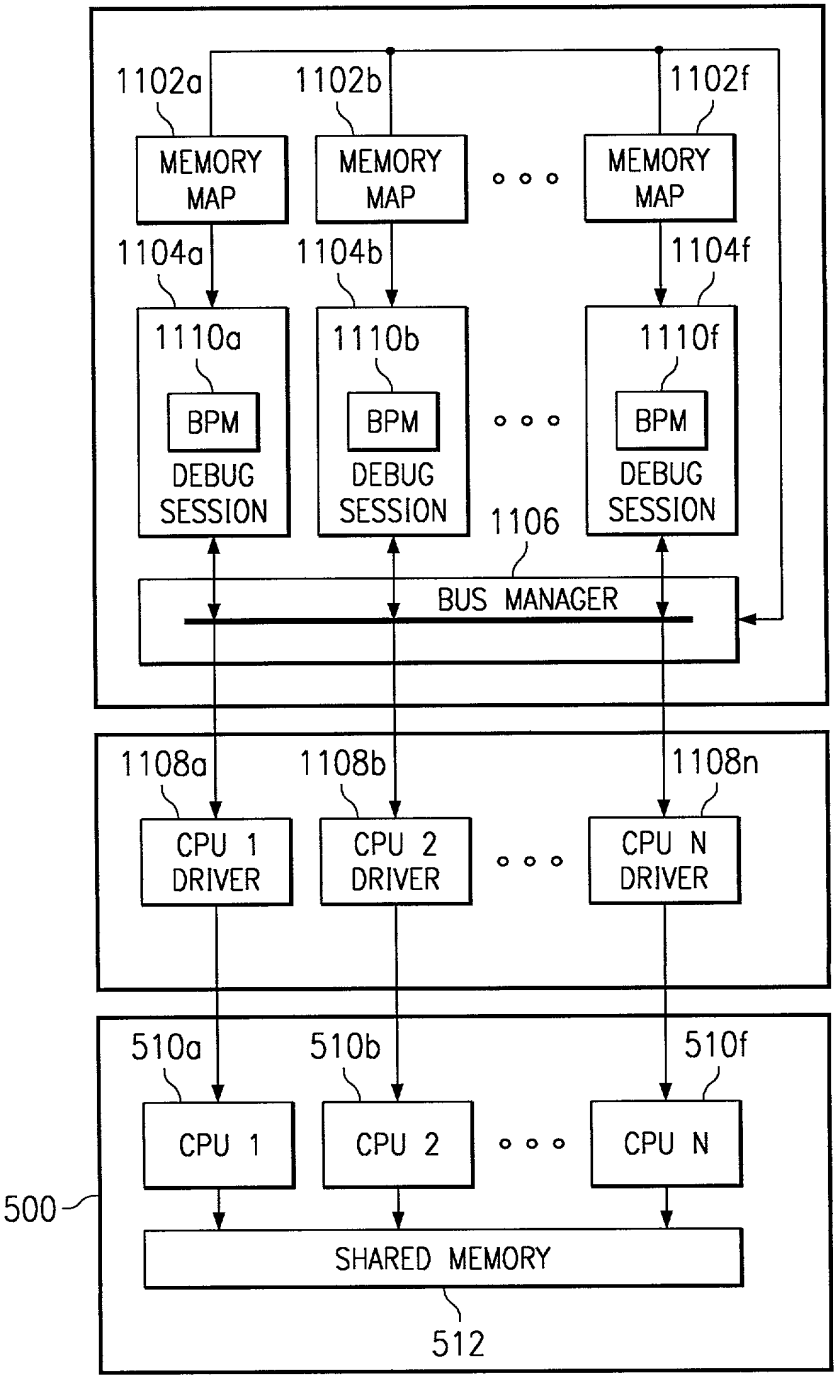

1102a
1102b
1102f
MEMORY MAP
MEMORY MAP
MEMORY MAP
1104a
1104b
1104f
1110a
1110b
1110f
BPM
DEBUG SESSION
BPM
DEBUG SESSION
BPM
DEBUG SESSION
1106
BUS MANAGER
1108a
1108b
1108n
CPU 1 DRIVER
CPU 2 DRIVER
CPU N DRIVER
510a
510b
510f
CPU 1
CPU 2
CPU N
500
SHARED MEMORY
512

FIG. 12A

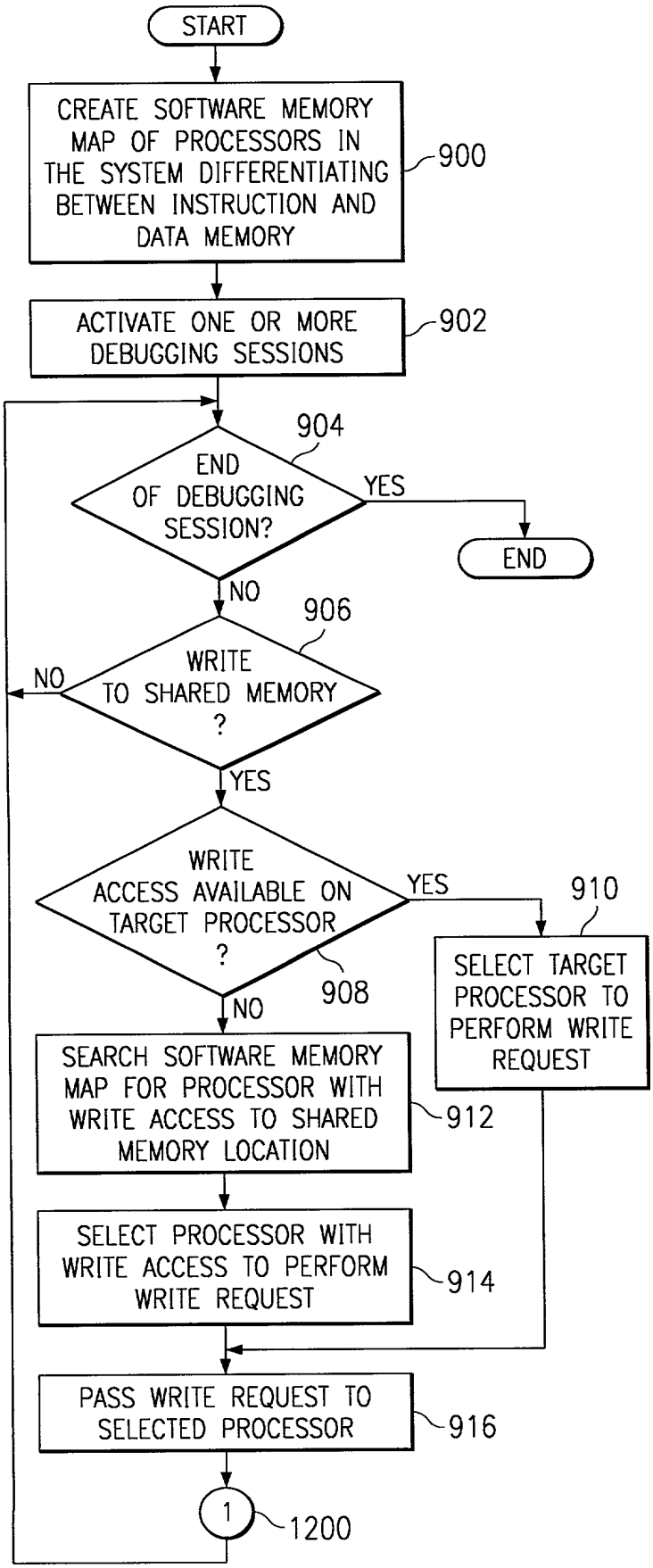
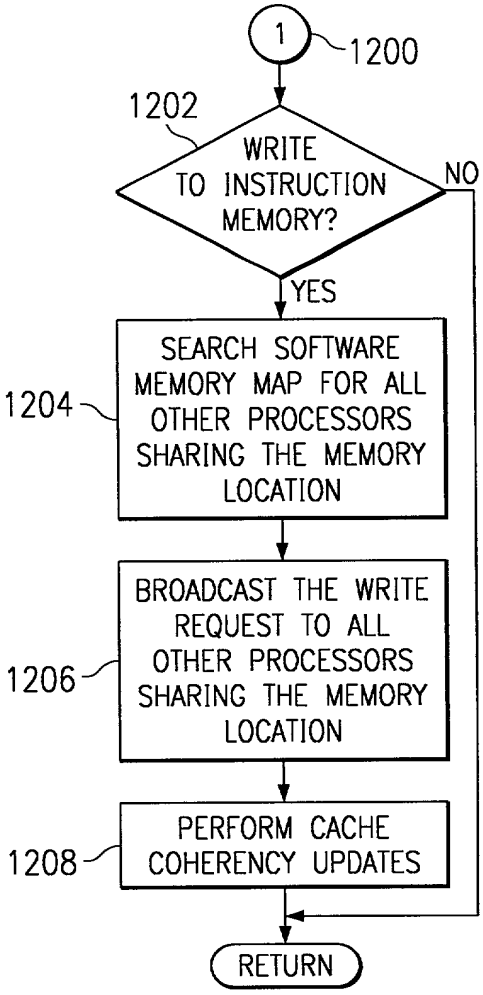


FIG. 12B



US 6,088,769

FIG. 13A

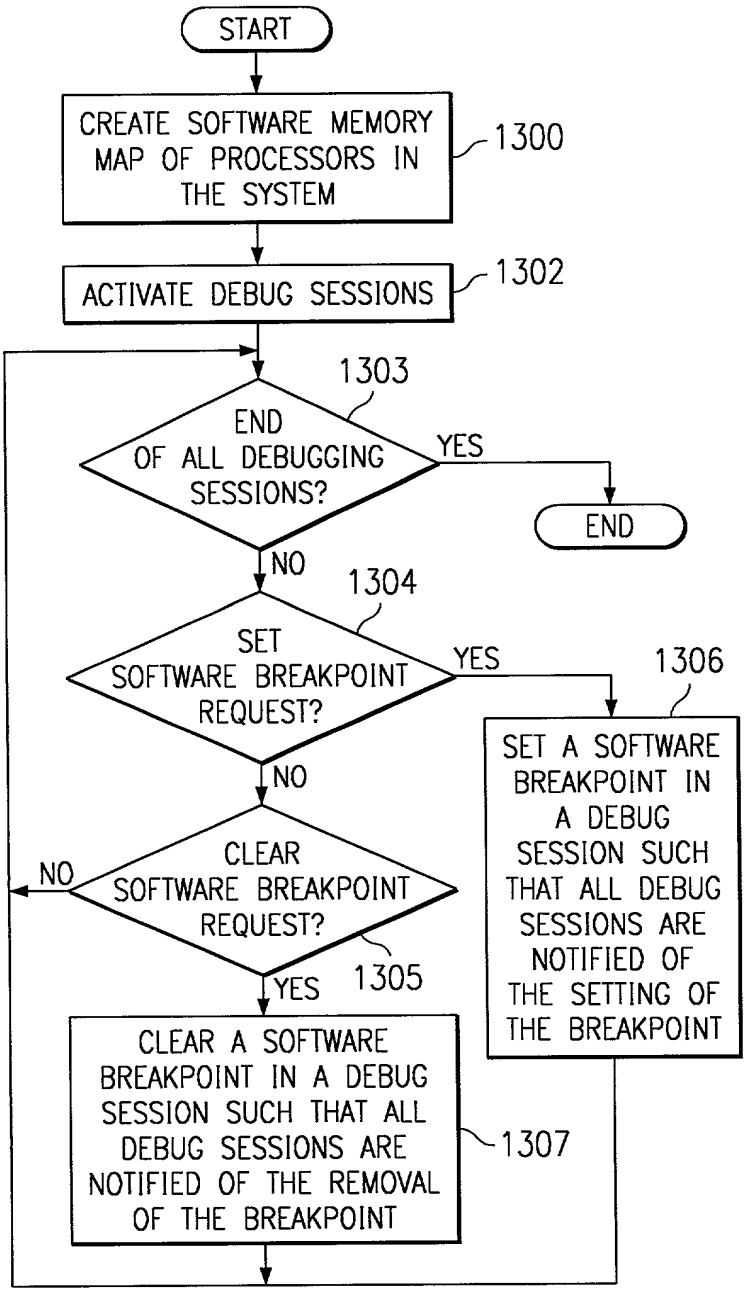
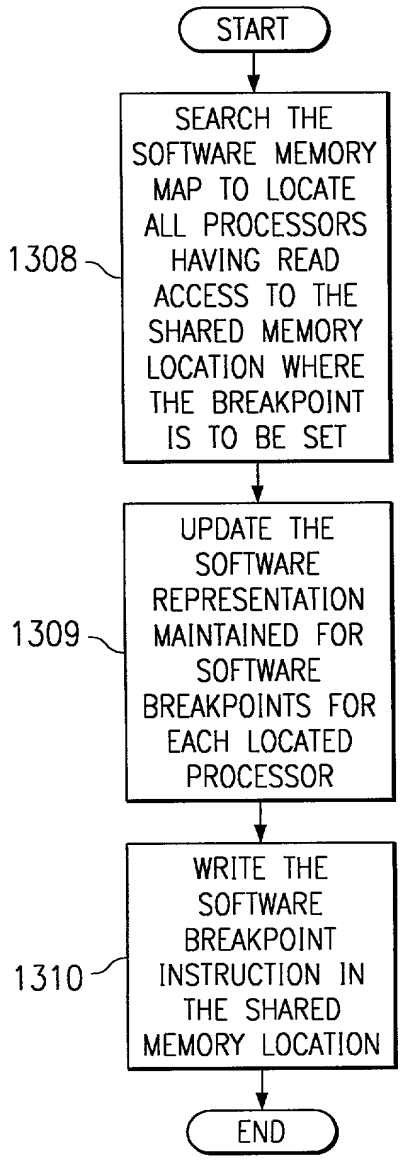


FIG. 13B



US 6,598,196 B1

FIG. 13C

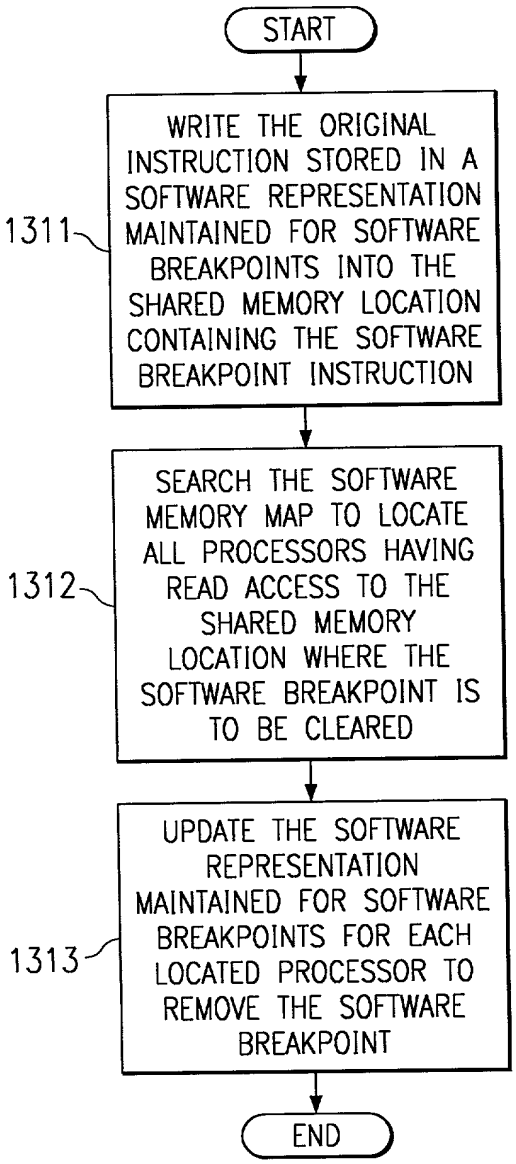
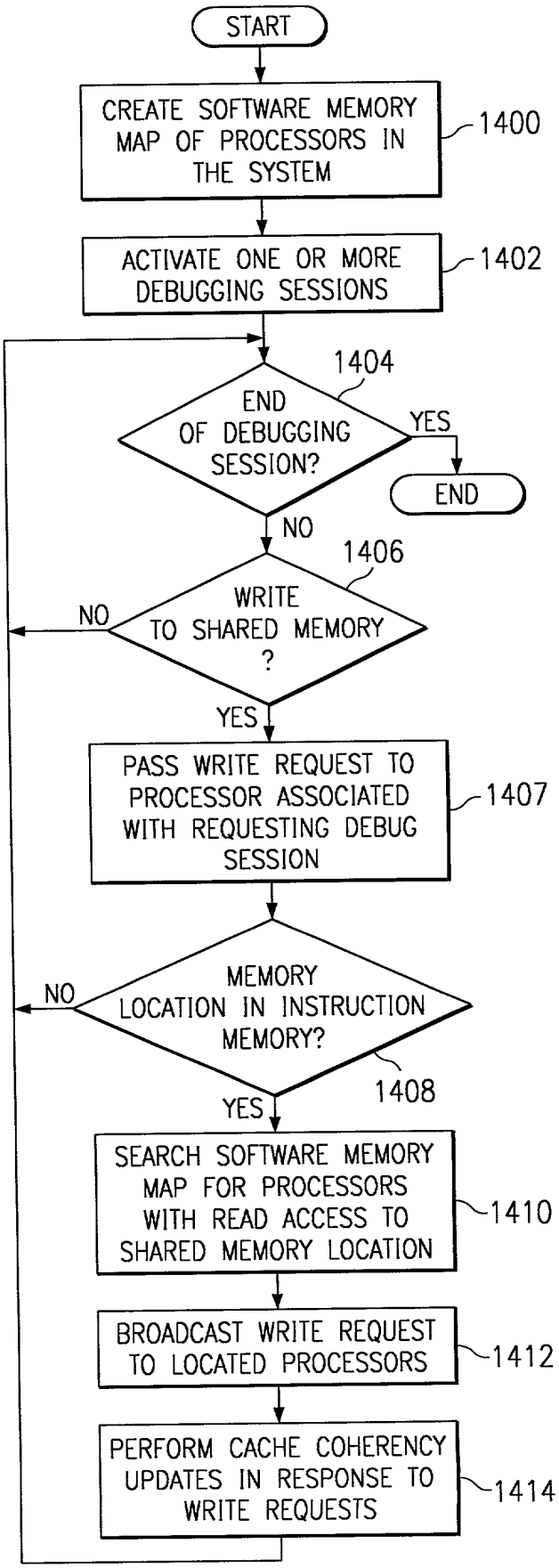


FIG. 14



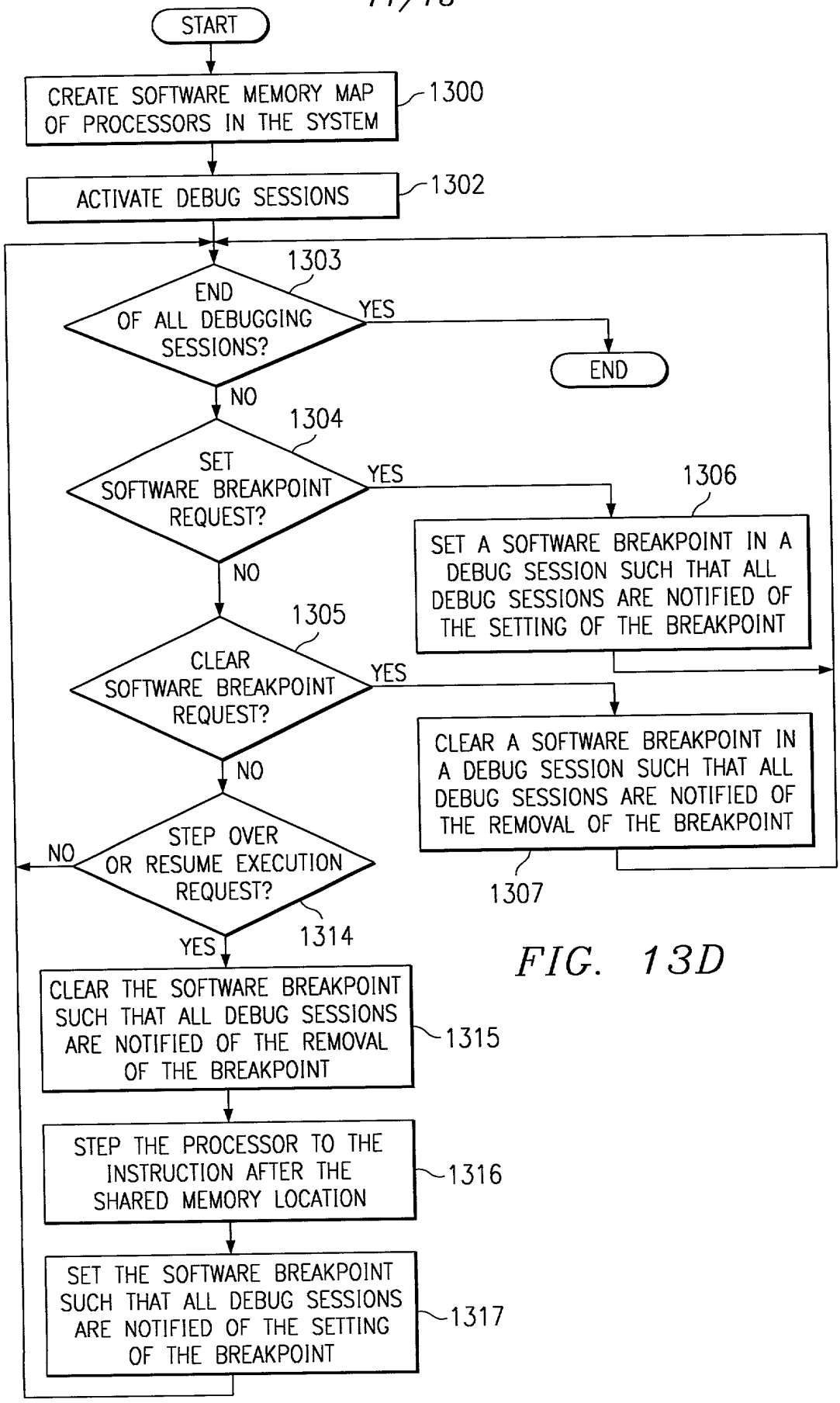


FIG. 13D

US 6,769,076 B1

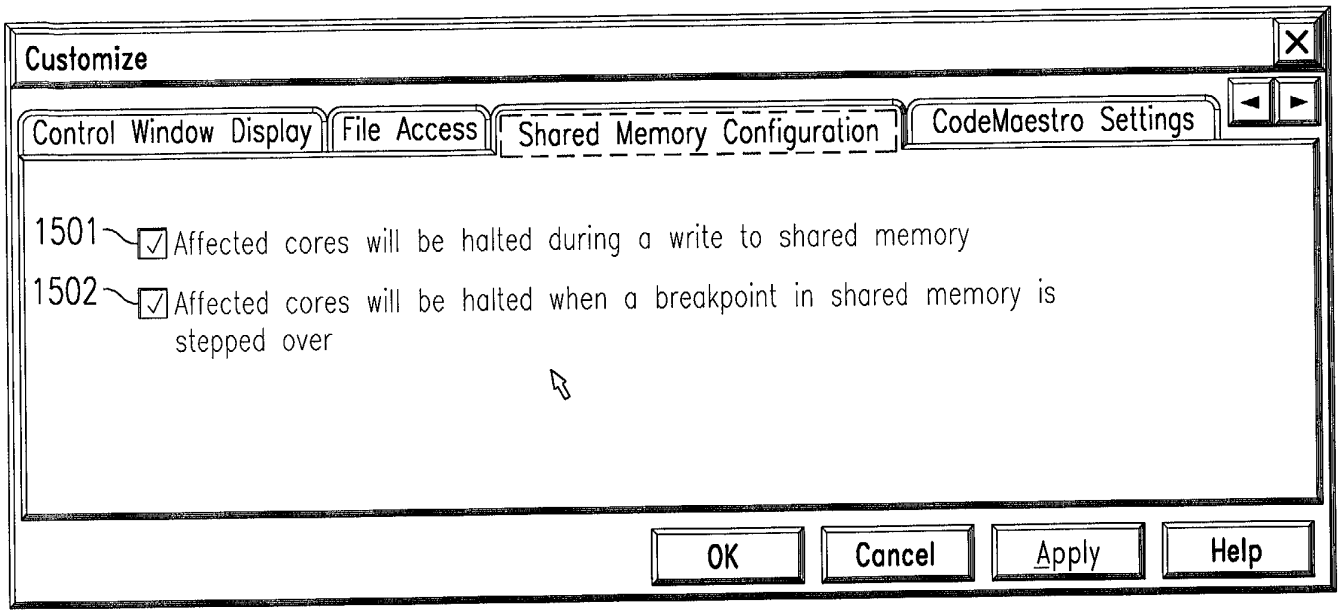


FIG. 15

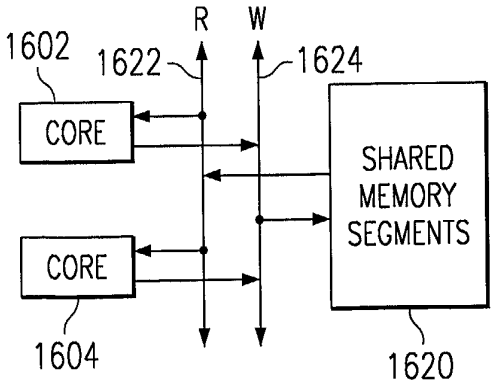


FIG. 16A

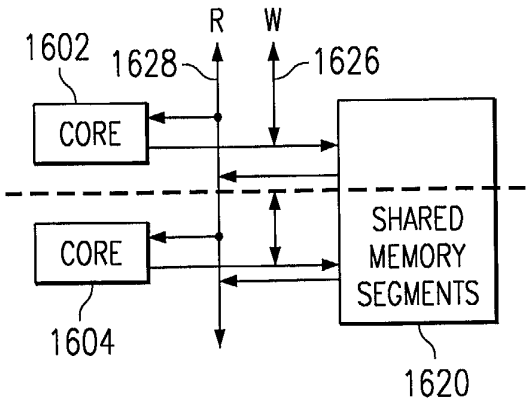


FIG. 16B

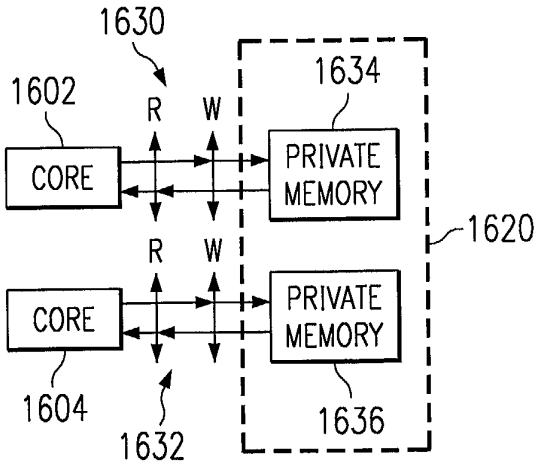
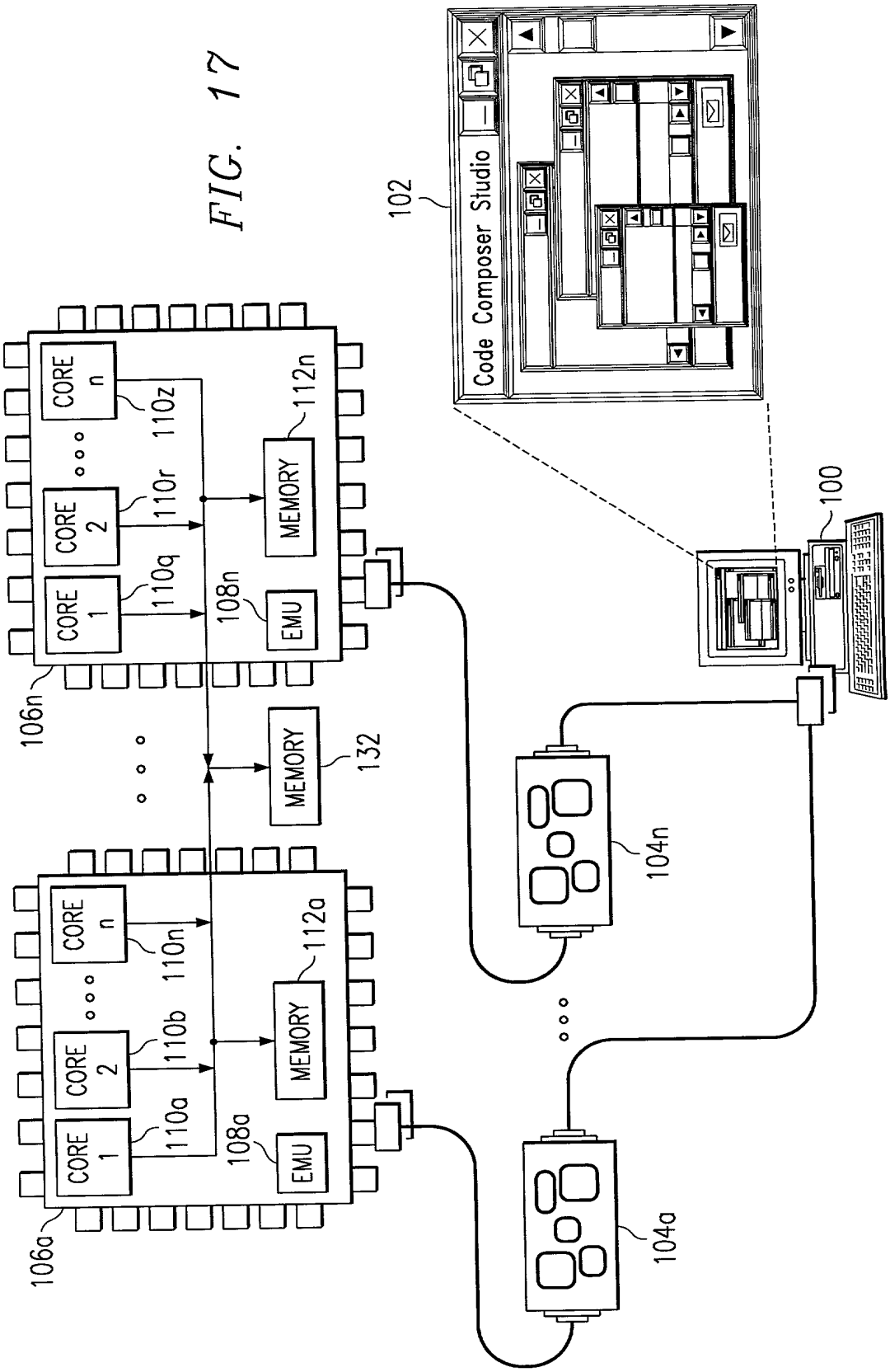


FIG. 16C

FIG. 17


Code Composer Studio
102
100
CORE n
CORE 2
CORE 1
110z
110r
110q
MEMORY
112n
EMU
108n
106n
MEMORY
132
CORE n
CORE 2
CORE 1
110n
110b
110a
MEMORY
112a
EMU
108a
106a
104n
104a